WHAT IS CLAIMED IS:

1. A system that evaluates movement of a body relative to an environment, said system comprising:

a sensor, associable with said body, that senses accelerative phenomena of said body relative to a three dimensional frame of reference in said environment, said sensor comprising a plurality of acceleration measuring devices; and

a processor, associated with said sensor, that processes said sensed accelerative phenomena of said body as a function of at least one accelerative event characteristic to thereby determine whether said evaluated body movement is within an environmental tolerance, and to thereby determine whether said body has experienced acceleration that represents one of a plurality of different types of motion.

2. The system set forth in Claim 1 wherein said one of said plurality of different types of motion is one of: no motion, a successful attempt to change position, an unsuccessful attempt to change position, a motion of a body moving with a gait, a motion of a body moving with a gait associated with a disability, a swaying motion, a near fall, and a fall.

3. The system set forth in Claim 1 wherein said plurality of acceleration measuring devices comprises three accelerometers in which each accelerometer is aligned along one axis of a three dimensional coordinate system.

4. The system set forth in Claim 1 wherein said plurality of acceleration measuring devices comprises two plural axis accelerometers in which a first plural axis accelerometer is aligned within a first plane of a three dimensional coordinate system and in which a second plural axis accelerometer is aligned within a second plane of said three dimensional coordinate system.

5. The system set forth in Claim 4 comprising a controller containing said processor, said controller capable of receiving from said two plural axis accelerometers values of acceleration of body motion measured in an x direction, in a y direction, and in a z direction.

6. The system set forth in Claim 5 wherein said controller is capable of using said values of acceleration of body motion measured in said x, y, z directions to calculate values for x, y, z distance components of body motion.

7. The system set forth in Claim 6 wherein said controller is capable of using said x, y, z distance components of body motion to calculate equivalent spherical polar coordinate components of body motion.

8. The system set forth in Claim 7 wherein said controller is capable of comparing a set of spherical polar coordinate components that represents a measurement of said body motion to each of a plurality of prerecorded sets of spherical polar coordinate components in which each set of said plurality of sets of spherical polar coordinate components represents a type of motion.

9. The system set forth in Claim 8 wherein one of said plurality of prerecorded sets of spherical polar coordinate components represents one of: no motion, a successful attempt to change position, an unsuccessful attempt to change position, a motion of body moving with a gait, a motion of a body moving with a gait associated with a disability, a swaying motion, a near fall, and a fall.

10. The system set forth in Claim 8 wherein said controller is capable of identifying a match between said set of spherical polar coordinate components that represents a measurement of said body motion with one of a plurality of said prerecorded sets of spherical polar coordinate components to identify a type of motion that corresponds to said body motion.

11. The system set forth in Claim 10 wherein after identifying said type of motion said controller sends an alarm signal indicative of said type of motion.

12. The system set forth in Claim 11 wherein said alarm signal is communicated via a network to a monitoring controller.

13. The system set forth in Claim 12 wherein said network is a wireless network.

14. The system set forth in Claim 11 wherein said body is a person and wherein said controller sends signals representing physiological data of said person together with said alarm signal.

15. The system set forth in Claim 14 wherein said alarm signal and said signals representing physiological data of said person are communicated via a network to a monitoring controller.

16. The system set forth in Claim 15 wherein said network is a wireless network.

17. The system set forth in Claim 7 wherein said controller is capable of calculating a value of a static acceleration vector from said spherical polar coordinate components of said body motion.

18. The system set forth in Claim 17 wherein said controller is capable of determining when said value of said static acceleration vector reaches a value less than the acceleration of gravity indicative of a fall.

19. The system set forth in Claim 18 wherein said controller is capable of determining a rate at which said value of said static acceleration vector increases after the value of said static acceleration vector has reached a value less than the acceleration of gravity indicative of a fall.

20. The system set forth in Claim 19 wherein said controller is capable of using said rate of increase of said value of said static acceleration vector to determine whether said controller was connected to a body during a fall that caused the value of said static acceleration vector to reach a value less than the acceleration of gravity.

21. A method of operating a system to evaluate movement of a body relative an environment wherein a sensor is associated with said body, said method of operation comprising the steps of:

processing, with a processor, repeatedly sensed accelerative phenomena of said body as a function of at least one accelerative event characteristic to thereby determine whether said evaluated body movement is within environmental tolerance; and

determining whether said body has experienced acceleration that represents one of a plurality of different types of motion.

22. The method set forth in Claim 21 wherein one of said plurality of different types of motion is one of: no motion, a successful attempt to change position, an unsuccessful attempt to change position, a motion of a body moving with a gait, a motion of a body moving with a gait associated with a disability, a swaying motion, a near fall, and a fall.

23. The method set forth in Claim 21 further comprising the steps of:

receiving in a controller comprising said processor a value of acceleration of body motion in an x direction and in a y direction from a first plural axis accelerometer aligned within a first plane of a three dimensional coordinate system; and

receiving in said controller a value of acceleration of body motion in a y direction and in a z direction from a second plural axis accelerometer aligned within a second plane of said three dimensional coordinate system.

24. The method set forth in Claim 23 further comprises the step of:

calculating in said controller values for x, y, z distance components of body motion using said values of acceleration of body motion measured in x, y, z directions.

25. The method set forth in Claim 24 further comprising the step of:

calculating in said controller spherical polar coordinate components of said body motion that are equivalent to said x, y, z distance components of said body motion.

26. The method set forth in Claim 25 further comprising the steps of:

comparing a set of spherical polar coordinate components that represents a measurement of said body motion to each of a plurality of prerecorded sets of spherical polar coordinate components in which each set of said plurality of sets of spherical polar coordinate components represents a type of motion; and

identifying a match between said set of spherical polar coordinate components that represents a measurement of said body motion with one of said plurality of said prerecorded sets of spherical polar coordinate components; and

identifying a type of motion that corresponds to said body motion.

27. The method set forth in Claim 26 wherein one of said plurality of said prerecorded sets of spherical polar coordinate components represents one of: no motion, a successful attempt to change position, an unsuccessful attempt to change position, a motion of body moving with a gait, a motion of a body moving with a gait associated with a disability, a swaying motion, a near fall, and a fall.

28. The method set forth in Claim 27 further comprising the step of:

sending an alarm signal indicative of said type of motion after said controller identifies said type of motion.

29. The method set forth in Claim 28 further comprising the step of;

sending said alarm signal via a network to a monitoring controller.

30. The method set forth in Claim 29 wherein said network is a wireless network.

31. The method set forth in Claim 28 wherein said body is a person and further comprising the steps of:

sending signals representing physiological data of said person together with said alarm signal.

32. The method set forth in Claim 31 further comprising the step of:

sending signals representing physiological data of said person via a network to a monitoring controller.

33. The method set forth in Claim 32 wherein said network is a wireless network.

34. The method set forth in Claim 25 further comprising the step of:

calculating in said controller a value of a static acceleration vector using said spherical polar coordinate components of said body motion.

35. The method set forth in Claim 34 further comprising the step of:

determining in said controller when said value of said static acceleration vector reaches a value less than the acceleration of gravity indicative of a fall.

36. The method set forth in Claim 35 further comprising the step of:

determining in said controller a rate at which said value of said static acceleration vector increases after the value of said static acceleration vector has reached a value less than the acceleration of gravity indicative of a fall.

37. The method set forth in Claim 36 further comprising the step of:

determining with said rate whether said controller was connected to said body during said fall that caused the value of said static acceleration vector to reach a value less than the acceleration of gravity.

38. The method set forth in Claim 37 further comprising the step of:

receiving in said controller a signal that detects a physiological function of said body within a time period, said signal indicating that said controller was connected to said body during said fall that caused the value of said static acceleration vector to reach a value less than the acceleration of gravity.